UNIVERSITY OF MINNESOTA COMPUTER CENTER
Deadstart Systems Newsletter

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Send all comments, criticisms and contributions to the editor: T. W. Lanzatella, University Computer Center, 2520 Broadway Drive, Lauderdale, MN 55113.
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NOTICE OF CHANGES TO THE SYSTEM

Don Mears corrected a character translation error stemming from the recent installation of UNDERLN terminal type.

Jeff Drummond installed his proposed changes to DSD which include a new E,F-display and changes to the E,M-display (see DSN 7,5 P. 21). Jeff also repaired a memory request problem in OPLEDIT and KRONREF.

Paul Thompson installed two PSR modsets from CDC which replace local code correcting a memory allocation problem in CONTROL and COPYB.

Andy Hastings installed his proposed change to CCL (see DSN 7,5 P. 25). Andy also reinstalled several local features which reference TLX functions by number instead of name, modsets for MULTI, ROTARY CHECK and NOTICE/NOTIFY now reference TLX functions according to names defined in COMSREM.

PROPOSED CHANGES TO THE SYSTEM

SYSLIB Restructure - by M. Riviere

I would like to remove the local versions of common decks from SYSLIB but still make them available from an additional user library, RELLIB, which could be installed as a Fetch type library.

From the time when I began including common decks in SYSLIB, CDC has been adding a large number of new routines to the library. Some of the new routines contain code that is equivalent to many of our locally installed routines although their entry points are not identical (e.g., decks CPU.ARG and RE.CARG with their respective entry points ARG= and ARG). Some other new routines contain names or entries that are identical to local ones but which do different things. (e.g., CPU.SVR and RE.CSUR with their identically named entry SVR=).

Originally, the local common decks were convenient for relocatable programs in debug stage. The convenience has become too costly because of problems caused by the structure of the library such as redundant code and duplicate entry points.

By having RELLIB available and SYSLIB trimmed of all local common decks, most loading conflicts would be solved.

For duplicate code, programmers could chose between changing their external symbol names, use the LDSET SUBST directive (e.g., LDSET (SUBST=$ARG=$ - ARG)) or access RELLIB.

For duplicate entry point conflicts, programmers could choose not to use RELLIB or to use it with LIBLOAD directives to specifically select the record to be loaded (e.g., LIBLOAD (SYSLIB,SVR=)).

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REDACT for WRITEUP Upkeep - by M. Riviere

In December 9, 1981 issue of this newsletter (Vol. 6, No. 21) I had an article describing REDACT, an interactive program for WRITEUP files maintenance and WRITEUP index editing.

Since then, REDACT was tested by several WRITEUP maintenance people and its information file was corrected thanks to the help of Sara Graffunder.

Now I would like to suggest the installation of REDACT as the official WRITEUP maintenance program.

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XEROX 9700 Utility Program ROUTEX - by Mike Frisch and Kevin McMahon

In the last DSN, Don Mears presented a proposal for Xerox 9700 service using a special ROUTE disposition code DC=XE and providing a queue dumping program. We propose a utility called ROUTEX to make up files for the Xerox 9700 queue.

To keep Don's queue dumping program simple, ROUTEX will provide him packed 8-bit ASCII data in fixed length blocks with variable length records, all to be written on a magnetic tape. This format is an ANSI standard which deletes trailing blanks and it will keep our tapes much shorter than a non-deleting format.

ROUTEX will allow two basic 9700 formats: a 136-column line printer simulator the long way across the page (landscape mode) and a typewriter simulator the short way across the page (portrait mode), both on 8-1/2" x 11" paper. Line printer simulator format will use smaller characters to fit on the reduced page size. Typewriter simulator format will use about the same size characters as normal and will typically come from text formatter programs such as FMT and PROSE.

ROUTEX will handle two important features of the 9700: single or double sided copy and various paper types. We will allow specifying normal, thesis and three-hole punched paper.

ROUTEX will accept a display code or a 6/12 ASCII code file as input. Embedded EOF's will be removed and there will be only a single EOF at the end. The data will be translated to the 8-bit packed ASCII mentioned before. ROUTEX will prefix the output file with a 9700 control record that defines what the user selected, for example, portrait mode with double sided copy on thesis paper.

Don's queue dumper will prefix the output from ROUTEX with a banner page. This will be handled on the 9700 in such a way as to make it easy for UCC Operations to separate jobs. Testing at the service bureau will help us and Operations decide which is the best way to do this.

Except for checking on input parameter errors, ROUTEX will only check the input data for lines that are too long, e.g., greater than 136 printable characters in line printer format. ROUTEX will truncate such long lines for the 9700. The user can have ROUTEX write the line number and first few characters of too long lines on another file. Only the first few such lines will be written, after which truncated 9700 printing will continue without error lines being written to the error file.

ROUTEX will not check for bad characters. All carriage control will be in line printer style using the usual characters in column one so ASCII control codes such as carriage return, line feed and form feed will be replaced by blanks on the 9700. PROSE and FMT have a line printer output format so this will be no problem for them.

And now ladies and gentlemen, what you've all been waiting for: a description of the parameters for ROUTEX. Please hold your applause until the conclusion.

ROUTEX borrows from ROUTE the first parameter input file name plus BIN=site bin, TID=site, EC=A6 or A9, and REP=repeat count. TID here means the site where output is returned, or BIN can be used for this, with the defaults being the Lauderdale site. We plan to make EC=A9 the default, because upper-lower case 6/12 ASCII codes are more likely to be printed on the 9700 and because 6 bit display codes print correctly except for the 74B and 76B escape codes. REP=0 will be the default, meaning that one original copy is made.

There are additional parameters for ROUTEX that aren't in ROUTE. NA means no abort, with default being abort and not print if any errors in the user's data file are detected. SI=1 or 2 means single or double sided copy with single sided being default. PT=NO or TH or P3 means paper type is normal (the default), thesis or 3 hole punched. PL=print limit means the line limit for the 9700 output. We will set a large default and ROUTEX will count the lines. N=number of input files is the number of files on the user's input file to be printed, with N=0 the default and meaning print until end of information. L=error file and NL=number of error lines will be used for the handling of too long input data lines, with defaults of file OUTPUT and 10 error lines printed before stopping error printing. I=command input file name is for a file from which additional ROUTEX parameters can be read. This is mostly for possible future use if too many parameters to put on one control statement line are later added to ROUTEX for special 9700 functions.

The remaining parameters provide us some choices. One alternative is to use OR=PO or LA for orientation is portrait or landscape, CS=10 or 12 for character spacing is 10 or 12 characters per inch, and either PD=6 or 8 for page density is 6 or 8 lines per inch or PS=66 or 88 for page size is 66 or 88 lines. The PS version might be better because in line printer simulation, the 66 or 88 lines fit into 8-1/2" which is not 6 or 8 lines per inch. The PD version might be better because 6 or 8 lines per inch is more well known among our users. The default for orientation will be landscape for line printer simulation so that fewer too-long-line errors are likely if the user makes a mistake, 10 characters per inch, and 6/8 lines per inch control taken from the column one carriage control. Changes of 6 or 8 in midpage will have to wait until the next page before taking effect. If the PS or PD parameter is used, lines with Q or T in column one will be deleted if they are otherwise blank or will be printed without the Q or T if they have additional characters beyond column one.

The second alternative is to use FMT=format number to combine all the parameters in the previous paragraph into one parameter. This is easier to write and easier for ROUTEX to decode but harder for users to remember which format corresponds to which combination of orientation, character spacing and line spacing. It does help in error checking because at least one combination is undesirable: 12 characters per inch and 8 lines per inch is just about unreadable.

Now for some closing comments. Some things might have to be changed if we discover problems because we don't yet have enough experience on the 9700. We will provide details such as line width for portrait mode when we find out the maximum we can handle. We plan to provide additional 9700 features later when we know how to integrate them into ROUTEX. For example, multiple fonts and proportionally-spaced characters might be allowed if we can decide how to handle them. The main reason for leaving things out is so we can get a working version of ROUTEX done in about a month after this Systems Group meeting.

DISCUSSION TOPICS

The Name of the Game is the Name - by J. J. Drummond

Q: What do the following have in common:

MERITTSS
Cyber 74
64
Cyber 172
MIRJE
74
MERITSS/MECC & MECC/MERITSS
Cyber 170-720
72
Batch
Cyber 720

A: They are all names used by users and staff to describe one or more of our UCC computer systems. Most of them are also confusing, inaccurate, ambiguous or irrelevant.

Or consider the case when you're consulting with a user and you ask which system they are using. "Huh?" the user replies. At this point, you know you're in trouble... but you may try one of the following:

"Are you a student?"
"Is this for a class?"
"Are you using cards?"
"Are you in one of the timesharing labs?"
"What number did you dial?"

The problem that this demonstrates is that there are no clear, consistent, and unambiguous names for our computer systems. This leads to the situation where our users (and staff) are unable to clearly reference any particular system. The closest thing we have to such a name is "MERITSS", but the usefullness of this name has been diluted by other names describing the same system (6400, 64, Cyber 170-720, Cyber 720, and the upcoming Cyber 172--which is currently in use describing another computer system).

It is important to have usable names for our computer systems for a number of reasons. It allows us to document hardware and software differences between the various systems. It allows users to communicate with staff effectively regarding problems (consulting). Finally, it allows users

to reference other machines easier (with regard to intermachine processing).

In an attempt to correct this situation I suggest a rational, consistent, and unambiguous naming scheme for our computer systems. There are any number of schemes that can be considered, but before I unveil my favorite here are what I consider to be the essential requirements:

1. Every computer system should have one and only one name. That name should be the only name to appear in UCC documentation and it should be included in the system title (which is printed at login and at the top of the job dayfile). The name should be used in all control statements that reference particular computers (e.g., the MI parameter on SEND, ROUTE and the job card) and therefore should be seven characters or less.

2. Since NOS identifies CDC computers with a one- or two-character machine ID and since one or two characters is probably not enough to establish a good name; the name should be disassociated from the machine ID (i.e., the name specified by the user would be mapped into a specific machine ID if necessary). Thus, the machine ID would be invisible to the user.

3. The name of a computer system should not be too specific with respect to hardware. Previous (and upcoming) computer swaps and upgrades have demonstrated the folly of names like "Cyber 720", "64", etc. The name does not even have to be too descriptive (e.g., how many users know what "MERITSS" stands for?), so long as users (and staff) can associate the name with the system.

4. Any naming scheme should be expandable to include other UCC and perhaps some non-UCC) computers such as VAX's, Class VI computers, etc., (we are already using another machine ID for Cray I service).

My suggested naming scheme involves using the names of heavenly bodies (planets and if necessary for expansion, moons and asteroids). Most of these names are seven characters or less and, in my opinion, would look futuristic and "classy" (but not too classy). For example:

```
$SEND(FILE/UN=usernum,PW=passwor,MI=NEPTUNE)
 FILE SENT TO NEPTUNE, 12 PRUS.
```

or the following login message:

```
UOFM JUPITER SYSTEM - NOS 1.3 (03/12-BW).
```

These names would be much easier to remember than the existing montage and would not be susceptible to changing hardware.

Other naming schemes could also be used: colors (Gold system, Maroon system, Beige system, etc.,); animals (Bear system, Shark system, Armadillo system, etc.,); fruits (Banana system, Peach system, Grape system, etc.,); cheeses (Cheddar system, Munster system, Colby system, etc.,); and so on.

SYSTEM MAINTENANCE: People and Procedures

Last Week's Systems Group Meeting - by T. W. Lanzatella

The following proposals were discussed.

1. Don Mear's proposal to add a utility program which dumps Xerox 9700 -bound queue files was accepted (see DSN 7,5 P. 20). We decided that the disposition code for Xerox-bound files should be DC=XE.

2. Brad Blasing's proposal to install the PSR531 version of the Cyber Loader and to remove the COS record type was accepted with the stipulation that COS not disappear until the end of spring quarter (see DSN 7,5 P. 21).

3. Jeff Drummond's proposal to install several changes to the E,M-display and to add the E,F display (mostly from R5) was accepted (see DSN 7,5 P. 21). Operations is concerned about operators having some kind of document to refer to in case of disk trouble. We will keep an R5 operators guide in the computer room.

4. Greg Jensen's proposal to add a LM-option to the ACCSTAT command was approved (see DSN 7,5 P. 22).

5. Kevin Matthews' proposal to move timesharing services on the C74 to the C730 and to share the C74 permanent file base between the two mainframes (under a seperate family name) was accepted (see DSN 7,5 P. 22). We decided that login procedures should not change until the end of spring quarter. The MERITSS change will likely occur at the end of summer in order that documentation can be updated.

6. Andy Hastings' proposed change to the CCL REVERT statement was approved (see DSN 7,5 P. 25).

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CALLPRG and Library Tape News - by M. Riviere

Contrary to what I previously announced, the changes with MNF, M77 and the PROCPAC section of MINNLIB did not take place on March 22, 1981.

The two additional changes made on March 22, a new version of MACRO11 was installed and ASM11 was made control-statement callable. Both changes, requested by D. Rubenstein, took place on the C74/172 and C720 Callprg indices.

I plan a new set of Callprg index and Library Tape changes to take place on March 29. End-of-quarter changes will still be made on that date if requested.

After March 29, the next set of Callprg index and Library Tape changes will take place on April 14. Modifications for that date should be submitted before noon on April 2.

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Cyber 74/172 Deadstart Dump Analysis from Friday, 6 March to Wednesday, 18 March - by J. J. Drummond

Monday, 9 March — Cyber 74

09:11 — N.A.
The system came up late as the CE's were correcting a hardware problem.

Tuesday, 17 March — Cyber 74

10:23 — DD2005
The scopes blanked out. A level three recovery was successful. An analysis on the dump uncovered the apparent location where DSD was executing. One of the direct cell locations contains an incorrect value but that does not, in itself, explain the scopes blanking. Identification of the problem appears unlikely.